REQUEST FOR *ACARUS TELARIUS* LINNÉ, 1758, *TROMBIDIUM TILIARIUM* JOH. HERMANN, 1804, *TETRANYCHUS URTICAE* KOCH, 1836, TO BE PLACED ON THE OFFICIAL LIST (ARACHNIDA, ACARINA). Z.N.(S.) 1564

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1. In his tenth edition of *Systema Naturae* (**1** : 616), Linné included only one name identified with the mite family Tetranychidae : *Acarus telarius*. Since then numerous species have been described in this family, some of which may have been among those confused by Linné, but relatively few species have been described with the obvious intent of revising *Acarus telarius* in terms of which objective species should bear the name of Linné.

2. The evidence indicates the certain inclusion of three objective species in the original combination *Acarus telarius* Linné, 1758. Reference is made to *Fauna Suecica* (Stockholm, 1746) in which Linné had described two species, which he included in *A. telarius* by referring to numbers 1196 and 1212 of *Fauna Suecica*. Species " 1196 " was called *Acarus alceae*, and all acarologists are agreed that this is the common green Two-Spotted Spider Mite or Common Spinning Mite which was defined taxonomically by Boudreaux, 1956, *Ann. Entomol. Soc. America* **49** : 44, using the name *Tetranychus telarius* (L., 1758). The other species, " 1212 ", was called *Acarus viridi-albicans foliorum tiliae*, and all acarologists agree that this is the common Linden Mite, or Lime-tree Spider Mite, which was defined taxonomically by Hirst, 1920, *Proc. zool. Soc. London*, **1920** : 57, and by Pritchard and Baker, 1955, *A Revision of the Spider Mite Family Tetranychidae, Pacific Coast Entomol. Soc. Man. Ser.* **2** : 178, under the name of *Tetranychus tiliarium* (Hermann, 1804, *Mémoire Aptérologique* : 42). However, both of these species are greenish mites which are never reddish except when females are in diapause during the fall, winter and early spring. Yet Linné described *A. telarius* as *reddish*, reproducing on greenhouse plants, as well as being found on Linden *in the fall*. It has been assumed that the " reddish " colour (hyalinofulvus, in ed. 10, later changed to rubicundohyalinus) mentioned by Linné described mites in diapause, but certainty on this score is possible only for the Linden mite, since a very common greenhouse pest in Europe is a red species which was defined taxonomically by Boudreaux, 1956, *Ann. Entomol. Soc. America* **49** : 45, using the name *Tetranychus cinnabarinus* (Boisduval, 1867, *Essai sur l'entomologie horticole* : 88). This is a species which prior to 1956 was considered to be a nutritionally or seasonally induced variant of the green form of the so-called Common Spinning Mite.

3. A Linnean dissertation (E. O. Rydbeck, 1758, *Pandora Insectorum*, Uppsala) was cited as evidence by Oudemans, 1937, *Critical Historical Survey of Acarology*, Leyden **3C** : 1045, and by van Eyndhoven, 1962, *Entomologische Berichten* **22** : 179–183, for restricting the name *Acarus telarius* Linné to the

Linden Mite. The dissertation is a discourse on the various attributes of insects, and at the end lists plants which harbour various species. Among the guests of Linden is listed "*Acarus telarius* 14 " (p. 16). It is plain from the text that the number 14 is reference to *A. telarius* as described in *Systema Naturae*. Therefore the Rydbeck paper is employing the name *sensu* Linné in *Systema Naturae*. Our interpretation of this paper is that Rydbeck was merely saying in effect, using modern language : "Among the insects found on *Tilia* is *Acarus telarius* Linné, 1758 ". In our opinion, the name as used by Linné in 1758 in *Systema Naturae* involves more than one species, and we cannot agree that Rydbeck was restricting the name to the Linden Mite. It is well known that the Linnean dissertations are the work of Linné himself (Stearn, 1957, facsimile of *Species Plantarum*, London) and if the intent had been to restrict the name *A. telarius* to the Linden Mite, it would have been applied as such in subsequent Linnean works. But all subsequent revisions of *Systema Naturae* (Ed. 11, 12, 13) and the revised *Fauna Suecica*, 1761, describe *Acarus telarius* in the same sense as in Edition 10 of *Systema Naturae*, in all cases referring to both " 1196 " and " 1212 " of *Fauna Suecica* of 1746. In the same paper, for *Malva* (Hollyhock) is listed "Acarus, Fn. 1196 " (p. 17). This is a reference to *Acarus alceae* Linné, 1746, (*Fauna Suecica*) an unavailable name, because the name was not validated by republication.

4. The name *Trombidium tiliarium* was made available by Johann Hermann, 1804, in J. F. Hermann, 1804, *Mémoire Aptérologique*, p. 42. The specific name *tiliarium* was until the present credited to J. F. Hermann, who formally described *Trombidium tiliarium*, but confused the Linden Mite with a green mite from hollyhock, an unknown host for the Linden Mite. The name must be credited to his father, Johann Hermann, who used the name for the Linden Mite only, demonstrating how it differed from *Acarus telarius* Linné, in an inserted note added between J. F. Hermann's discussions of *Trombidium telarium* Linné and *Trombidium tiliarium*. The work of Joh. Hermann is the first to remove a species from the Linnean *telarius* complex. In the same inserted note, Joh. Hermann (Père) established the name for the carmine mite by saying : " Je vis d'abord, en les examinant à la loupe, qu'ils n'étaient pas l'*Acarus telarius* de Linné, n'étant pas rougeâtres, et n'ayant pas de tache brune de chaque côte du ventre ".

5. The first available name for the Two-Spotted Spider Mite as defined taxonomically by Boudreaux (op. cit.) is *Tetranychus urticae* Koch, 1836, *Deutsche Crustacea, Myriapoda, Arachnida*, Fasc. **1** : 10. This is the species which Boudreaux (op. cit.) called *Tetranychus telarius* (Linné, 1758).

6. With the removal of the Linden Mite from the *telarius* complex as *Trombidium tiliarium* Joh. Hermann, 1804, and of the Two-Spotted Mite from the same complex as *Tetranychus urticae* Koch, 1836, there remained a species which must now bear the name *telarius*. Koch, 1838, *Deutsche Crust., Myr., Arach.*, Fasc. **17** : 13, adopted the name *Tetranychus tiliarium* for the Linden Mite but credited it to J. F. Hermann, the son, rather than to the rightful author, Joh. Hermann, the father. In the same book (Fasc. **17** : 12) Koch restricted the name *Tetranychus telarius* (L., 1758) to a reddish species living on many plants, in greenhouses and on potted plants, and this species

is the one defined taxonomically by Boudreaux (op. cit.) as *Tetranychus cinnabarinus* (Boisduval, 1867). We submit that this species is the basis for the reddish colour mentioned by Linné to apply to mites on greenhouse plants.

7. Since it is common practice to name the Linden Mite *Eotetranychus telarius* (L.) in Europe, and to name it *E. tiliarium* (Hermann) elsewhere, and also it is common practice to name the Two-Spotted Mite *Tetranychus urticae* Koch in Europe, and to name it *T. telarius* (L.) elsewhere, the time has arrived for acarologists to stabilize names.

8. There are no known Linnean type-specimens of these mites in existence. Hirst (1920, op. cit.) first figured the most reliable structure for recognition of the Linden Mite, in his illustrations of the aedeagus (p. 51, Fig. 1*e* and *j*). This structure is characteristic and unmistakable in the Linden Mite. The aedeagi of the Two-Spotted Mite and of the Carmine Mite are so similar that it is impossible to use aedeagal characters to separate these two species. The shape of the dorsal integumental lobes of the females is reliable as a character to separate them (Boudreaux, 1956, *Ann. Entomol. Soc. America* **49** : 44–45).

9. A detailed discussion of the confusions about the above names is in press as part of a symposium volume of proceedings of an Acarological Symposium (Recent Advances in Acarology) held at Ithaca, New York, in March, 1962.

10. The writers of this petition want to point out that the procedure outlined is not only in the interest of a stable and universal nomenclature, but it is a petition which does not require any violation of the current Code of Zoological Nomenclature, and it does not revive old prior forgotten names. All the names petitioned for have been used very extensively, but have been shifted back and forth. Now that the species in question cannot be confused with each other. it should not be a continued practice to confuse their names.

11. We ask therefore that the following names be placed on the Official List of Specific Names in Zoology by the Commission :

(a) *telarius* Linné, 1758, as published in the combination *Acarus telarius*. We designate as neotype a female on deposit in the British Museum (Natural History), mounted with Heinze PVA medium on a glass microscope slide bearing data as follows : " From *Phaseolus vulgaris* in Greenhouse, Rotterdam, Holland. June 1, 1962. Live color, Red. Collected by G. Dosse. *Acarus telarius* Linné, 1758. Neotype female." (B.M.(N.H.) 1963.1.9.1). The type-host and locality are given by Linné as " European plants ".

(b) *tiliarium* Joh. Hermann, 1804, as published in the combination *trombidium* [sic] *tiliarium* in a note added to the book of his son, J. F. Hermann. We designate as neotype a male on deposit in the British Museum (Natural History), mounted with Heinze PVA medium on a glass microscope slide bearing data as follows: "From *Tilia cordata*, Strassburg, France. November 14, 1962. Collected by G. Dosse. *Trombidium tiliarium* Joh. Hermann, 1804. Neotype male." (B.M. (N.H.) 1963.1.9.2). These are the type-host and type-locality of the species.

(c) *urticae* Koch, 1836, as published in the combination *Tetranychus urticae*. We designate as neotype a female on deposit in the British Museum

(Natural History), mounted with Heinze PVA medium on a glass microscope slide bearing data as follows: " From *Urtica dioica*, Regensburg, Germany. October 27, 1962. G. Dosse, collector. Live colour, green. *Tetranychus urticae* Koch, 1836. Neotype female." (B.M.(N.H.) 1963.1.9.3). These are the type-host and type-locality of the species.